

Claims

1. A storage area network (SAN) comprising

one or more regions forming at least a portion of the SAN, each region having one or more components, the components including one or more digital data processors and one or more storage devices;

one or more scanners that collect, for each region, information regarding the components and their interconnectivity;

a manager, coupled to the one or more scanners, that responds to the collected information to determine a topology of a portion of the SAN spanned by the regions.

2. The SAN of to claim 1, wherein the manager identifies one or more storage device ports common to two or more regions.

3. The SAN of claim 1, wherein the manager identifies regions having one or more common storage devices as a virtual SAN.

4. The SAN of claim 1, wherein the regions comprise one or more host digital data processors coupled for communication with one or more storage devices by a first network.

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5. The SAN of claim 4, wherein the scanners execute on host digital data processors.
6. The SAN of claim 4, wherein the manager executes on a manager digital data processor that is coupled to the host digital data processors by via a second network.
7. The SAN of claim 6, wherein the first network comprises fiber channel media.
8. The SAN of claim 6, wherein the second network comprises an IP network.
9. A storage area network (SAN) comprising
 - a plurality of hosts, each coupled via an interconnect with a plurality of storage units, the hosts and storage units forming a plurality of regions, each comprising one or more hosts in communication coupling with one or more storage devices over the interconnect,
 - a manager digital data processor that maintains a topological representation of the SAN,
 - one or more scanners, in communication coupling with the hosts and with the manager digital data processor, that determine the hosts and storage units in each region,
 - the manager digital data processor determining, as a function of the information collected by the scanners, a topology of a portion of the SAN spanned by the regions.

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10. The SAN of claim 9, wherein the manager digital data processor identifies, as a function of the information collected by the scanners, the hosts and storage units that make up the portion of the SAN spanned by the regions.

11. The SAN of claim 10, wherein the manager digital data processor identifies, as a function of the information collected by the scanners, the interconnectivity of the hosts and storage units that make up the portion of the SAN spanned by the regions.

12. The SAN of claim 10, wherein the manager digital data processor identifies one or more virtual SANs as a function of the information collected by the scanners, each virtual SAN comprising at least the storage devices included within a set of regions, each of which has one or more common storage device ports with at least one other region of that set.

13. The SAN of claim 10, comprising a plurality of agents in communication with the manager digital data processor, wherein each agent is associated with a host, and wherein each scanner is associated with an agent.

14. The SAN of claim 10, wherein the regions comprise one or more host digital data processors coupled for communication with one or more storage devices by a first network.

15. The SAN of claim 14, wherein the scanners execute on host digital data processors.

16. The SAN of claim 14, wherein the manager digital data processor that is coupled to the host digital data processors via a second network.

17. The SAN of claim 14, wherein the agents identify attributes of the storage units coupled to the respective hosts via one or more adapters on the respective host.

18. The SAN of claim 14, wherein the zones are defined by any of switches or switch-like interfaces on any of the first network, the host digital data processors and the storage devices.

19. The SAN of claim 18, wherein the first network comprises fiber channel media.

20. The SAN of claim 19, wherein the second network comprises an IP network.

21. A method of determining topology of at least a portion of a storage area network (SAN) spanned by one or more regions, comprising:

identifying, for each region, one or more components contained within that region and their connectivity to generate information regarding topology of that region, and

collating the information regarding topology of the one or more regions to determine topology of the portion of the SAN spanned by those regions.

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22. The method of claim 21, further comprising the step of identifying regions having one or more common endpoints, where the endpoints include any of components and component ports.

23. The method of claim 21, further comprising the step of identifying as a SAN, a set of regions each of which has one or more common storage device ports with at least one other region of that set.

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